

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

Petition of the Wisconsin Department of Transportation for the Alteration of a Public Crossing of the Wisconsin Central Ltd. Tracks with CTH 'A' (Lynndale Avenue) in the Town of Grand Chute, Outagamie County

9164-RX-568

FINAL DECISION

By letter dated June 1, 2004, the Wisconsin Department of Transportation (DOT) filed a petition with the Office of the Commissioner of Railroads (OCR) under §§86.13, 195.28, 195.285 and 195.29, Stats., for the alteration of a public crossing of the Wisconsin Central Ltd. (WCL) tracks with CTH 'A' (Lynndale Avenue) in the Town of Grand Chute, Outagamie County (crossing no. 181 824X / MP 122.53).

The DOT also petitioned for the exemption of vehicles specified in §346.45, Stats., from the requirement to stop at the CTH 'A' (Lynndale Avenue) crossing.

Pursuant to due notice, public hearing was held in this matter on July 8, 2004 in Grand Chute, Wisconsin with hearing examiner Douglas S. Wood presiding.

On July 28, 2004, the hearing examiner issued a proposed decision. On August 2, 2004, the Wisconsin Department of Transportation filed comments supporting the proposed decision. The DOT did note a needed correction to the Findings of Fact. In the discussion of the exempt status, the proposed decision stated that the crossing would have automatic flashing lights. The crossing will actually have cantilevered automatic flashing lights with gates and constant warning time circuitry at the completion of the project. The DOT also requested that the order include a requirement that the WCL provide estimates for both the crossing work and the signal work within 60 days from the date DOT requests the estimates. The Commissioner agrees that this request is reasonable. The Commissioner amends the Findings and Order accordingly and otherwise adopts the proposed decision as final.

Appearances:

Parties

Wisconsin Department of Transportation, Petitioner
by
Mark Morrison, PE
Grade Crossing Safety Engineer
PO Box 7914
Madison, Wisconsin 53707-7914

In Support:

Outagamie County Highway Department
by
Alvin Geurts
Outagamie County Highway Commissioner
1313 Holland Road
Appleton, WI 54915

As Interest May Appear:

Wisconsin Central Ltd.
by
Jack Palach
Signal Design Officer
1625 Depot Street
Stevens Point, WI 54481

Findings of Fact

THE COMMISSIONER FINDS:

The Wisconsin Department of Transportation and Outagamie County propose to alter the public crossing of the Wisconsin Central Ltd. tracks with CTH 'A' (Lynndale Avenue). The DOT and Outagamie County plan to widen CTH 'A' (Lynndale Avenue) from 2 lanes to 4 lanes with a center median in the 2005 construction season. The width of the existing roadway is insufficient for the volume of traffic projected for this facility. As this area of the Town of Grand Chute continues to develop, capacity conditions of this roadway will continue to degrade. The crossing is included within the project limits.

The DOT and the County also propose to exempt the CTH 'A' (Lynndale Avenue) crossing from the stopping requirement specified in §346.45, Stats.

Existing CTH 'A' (Lynndale Avenue) consists of a rural cross-section at the crossing with two 12'-wide travel lanes (asphalt) and 9'-wide shoulders (3' asphalt). There is no sidewalk located at the crossing or elsewhere on Lynndale Avenue. CTH 'A' (Lynndale Avenue) intersects the tracks at an angle of 45° (left-hand forward). The roadway approaches to the crossing are basically flat. The crossing consists of one mainline track. There is a switch located about 120' northwest from the crossing.

Reconstructed CTH 'A' (Lynndale Avenue) will consist of four 12'-wide travel lanes with a 14' wide TWLTL (two-way left turn lane). At the crossing the TWLTL will be removed, and the typical section will consist of a 4-lane urban section with a raised center median. The northbound and southbound approach widths will be 28' from face of curb to face of curb. A 10'-wide median, measured from face of curb to face of curb, will divide the northbound and southbound lanes. The raised median will begin approximately 195' south of the centerline of

crossing and will end 140' to the north. The total pavement width at the crossing is 66' from face of curb to face of curb. No sidewalk is proposed at the crossing or elsewhere on Lynndale Avenue. The crossing angle will remain 45°.

CTH 'A' (Lynndale Avenue) is projected to carry 16,100 ADT (average daily traffic) in 2005. The East Central Wisconsin Regional Planning Commission projects CTH 'A' (Lynndale Avenue) will carry 21,500 ADT in the design year of 2025. Trucks make up 7.9% of the highway traffic. The speed limit is 45 mph.

CTH 'A' (Lynndale Avenue) will be closed to through traffic during construction. However, local traffic will be substantial because of the nearby commercial properties.

The railroad currently operates 4 to 6 through train movements per day over the crossing location at a timetable speed of 25 mph. Actual train speeds are restricted to 10 mph by a railroad operating bulletin. The railroad also operates 2 switch trains per day.

A driver traveling at 45 mph needs a distance of 394' to stop safely. The crossing is visible from 630' for northbound traffic and 800' for southbound traffic. Assuming a train speed of 25 mph, a driver traveling at 45 mph needs to see a train when it is 260' from the crossing from the safe stopping distance. Assuming a train speed of 10 mph, the train needs to be seen when it is 105' from the crossing. The sight distance available in each quadrant from the safe stopping distance is 54' in the northwest quadrant, 67' in the northeast quadrant, 148' in the southwest quadrant and 32' in the southeast quadrant. Sight distance is inadequate in all quadrants for a 25 mph train and inadequate in 3 quadrants for a 10 mph train.

At all crossings, except those with gates, a driver stopped 15' short of the near rail must be able to see far enough down the track, in both directions, to determine if sufficient time exists for moving their vehicle safely across the tracks to a point 15' past the far rail, prior to the arrival of a train. Required clearing sight distance along both directions of the track, from the stopped position of the vehicle, is dependent upon the maximum train speed and the acceleration characteristics of the "design" vehicle. The necessary clearing sight distance at the CTH 'A' (Lynndale Avenue) crossing is 560'. The available clearing sight distance is over 900' in 3 quadrants, but only 420' in the southeast quadrant.

Acquisition of the full vision triangles from the commercial developments adjacent to the crossing would be cost prohibitive. The existing buildings already limit the necessary sight distances. The County proposes to use its zoning powers to prevent the construction of additional structures (signs, buildings, etc.) within the limits of the vision triangles.

The exposure factor at this crossing is about 97,000 to 129,000. The exposure factor will be about 129,000 per day in the design year assuming 6 train movements per day. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

No train-vehicle accidents have occurred at this crossing since 1973.

An accident prediction model developed by the Federal Railroad Administration (FRA) allows a projection of expected future accidents based on a number of factors including train volume and

speed, highway volume and accident history. The model can be used to compare the expected accident rates given different warning devices. The predicted rate, however, is only one tool for evaluating safety improvements and does not replace sound judgment based on a consideration of all known factors.

The CTH 'A' (Lynndale Avenue) crossing has a predicted accident rate of .0796 accidents per year, or one accident every 12.6 years with automatic flashing lights and no gates. If gates are installed the predicted accident rate is .0087 accidents per year, or one accident every 115 years. Installing gates will substantially improve safety.

The crossing presently has automatic flashing lights with 8" incandescent lamps for northbound traffic and 12" incandescent lamps for southbound traffic. There are advance warning signs located at each approach. These warning devices are inadequate. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety, cantilevered 12" LED automatic flashing lights with gates and constant warning time circuitry are needed because of the exposure factor, limited corner sight distance and limited clearing sight distance.

Staging and Timing

Lynndale Drive will be closed to through traffic with a detour provided by the County. The roadway will remain open for local access throughout construction, which will require the roadway to be constructed in stages. The proposed staging is as follows:

Phase 1a - Construct temporary roadway on east side of Lynndale Drive.

Phase 1 - Move traffic onto temporary roadway with two way traffic maintained. Construct west half of roadway.

Phase 2 - Move traffic onto new pavement on west half of roadway. Construct east half of Lynndale Drive.

The existing signals will conflict with the proposed construction in Phase 1a and Phase 1. In order to maintain a signalized crossing during construction, DOT proposes that the new cantilevered signals be installed prior to the commencement of construction. The anticipated start date for the construction of Lynndale Drive is May 2, 2005. DOT proposes that the new cantilevered flashing signals be operated throughout each phase of construction. The gates would be activated in conjunction with the opening of the roadway to through traffic at the conclusion of Phase 2.

In the event that the new cantilevered signals are not installed by May 1, 2005, the order requires the railroad to stop and flag all train movements over the crossing as an interim measure until the cantilevered signals are installed.

The existing crossing surface will need to be temporarily widened as part of Phase 1a in order to maintain two lanes of traffic on the temporary roadway. The DOT proposes that this widening be done prior to or concurrently with the contractor's paving operations for Phase 1a. The new

concrete panel crossing surface will need to be installed before the contractor can complete paving operations.

If the railroad chooses to install the concrete surface prior to concrete paving operations, the special provisions for the road contract will require that the contractor protect the new surface by installing temporary asphalt paved ramps, with a 6'-wide flat area on both sides of the crossing, for traffic access.

Exemption

The DOT and County propose to exempt the CTH 'A' (Lynndale Avenue) crossing from the stopping requirement of §346.45 Wis. Stats. That section requires certain specified vehicles, such as passenger buses and fuel trucks, to stop at all railroad crossings unless posted with an exempt sign.

CTH 'A' (Lynndale Avenue) traffic consists of 7.9% truck traffic and a substantial number of these trucks are required to stop at non-exempt crossings. Typically, about 10% of trucks are required to stop, which would be about 122 per day for the CTH 'A' (Lynndale Avenue) crossing.

Exempting these vehicles from the stopping requirement of §346.45, Stats., will promote the public interest, particularly in light of public safety. Train traffic is light and low speed. CTH 'A' (Lynndale Avenue) carries a large volume of vehicular traffic, which means there would be frequent conflicts between vehicles required to stop and all other highway traffic. The crossing will have cantilevered automatic flashing lights with gates and constant warning time circuitry for warning devices.

The state of Wisconsin has developed a very good safety record with exempt crossings, which should continue as long as exemptions are granted only under appropriate circumstances. Vehicle-vehicle accidents, typically rear-enders, have been reduced by 74% at crossings where exempt status was granted. Conversely, no exempt vehicles have been involved in a train-vehicle accident after a crossing was granted exempt status.

The order requires the County to install exempt signs [Sign R15-3 in the Manual on Uniform Traffic Control Devices (MUTCD)] on the vertical signal posts on each approach. The order also requires the County to install yellow-background advance warning exempt signs on the advance warning signs on the approaches to the crossing.

In summary, the alteration of the crossing at-grade of the Wisconsin Central Ltd. tracks with CTH 'A' (Lynndale Avenue) will promote public safety and convenience:

1. Wider pavement will increase capacity of the roadway and improve the flow of traffic at the crossing.
2. Automatic gates will be installed to deter vehicles from entering into the path of an on-coming train.

3. Cantilevered flashing signals placed over the roadway will improve visibility and the ability for vehicles to stop safely prior to reaching the crossing.
4. A supplemental safety measure of a barrier median will be constructed at the crossing approaches. This median will minimize the chances of a vehicle attempting to drive around the gates.

Costs. The project shall pay 100% of the costs for the crossing signals. The cost for the crossing construction shall be apportioned 64% to the Wisconsin Central Ltd. and 36% to the project based on the pro-ration of the existing width to the new width (44/69). The existing crossing should be 44' wide in order to extend between the outside of the shoulders.

Ultimate Conclusions on the Issues

THE COMMISSIONER CONCLUDES:

1. That the alteration of the crossing at-grade of CTH 'A' (Lynndale Avenue) with the Wisconsin Central Ltd. tracks in accordance with the design plans of the Wisconsin Department of Transportation and Outagamie County in the Town of Grand Chute, Outagamie County will promote public safety and convenience.

2. That in order to adequately protect and promote public safety, it is necessary to install and maintain cantilevered 12" LED automatic flashing lights with gates.

3. That it would promote the public interest to exempt the crossing of CTH 'A' (Lynndale Avenue) with the tracks of the Wisconsin Central Ltd. from the stopping requirement of §346.45, Wis. Stats.

4. That it is reasonable that the Wisconsin Central Ltd. bear 64% of the cost for the crossing construction.

Conclusion of Law

THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §§86.13, 195.28, 195.285, and 195.29, Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

Order

THE COMMISSIONER ORDERS:

1. That the **Wisconsin Central Ltd.** shall install and maintain a concrete-panel crossing at-grade of CTH 'A' (Lynndale Avenue) with its tracks in accordance with the design plans of the Wisconsin Department of Transportation and Outagamie County in the Town of Grand Chute, Outagamie County by **September 1, 2005**. (Crossing No. 181 824X / MP 122.53)

2. That unless the concrete panel crossing is installed by May 2, 2005, the **Wisconsin Central Ltd.** shall temporarily widen the CTH 'A' (Lynndale Avenue) crossing in coordination with the project staging. With the agreement of the Wisconsin Central Ltd., this widening may be performed by the highway contractor.

3. That the **Wisconsin Central Ltd.** shall install and maintain cantilevered 12" LED automatic flashing lights with gates, constant warning time circuitry, and other appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with CTH 'A' (Lynndale Avenue) at-grade in the Town of Grand Chute, Outagamie County. The cantilevered signals shall be installed by **May 2, 2005** and the gates shall be installed by **September 1, 2005** (Crossing No. 181 824X / MP 122.53).

4. That the **Wisconsin Central Ltd.** shall remove the existing crossing signals by **May 2, 2005**. In the event that the cantilevered automatic flashing lights ordered in Paragraph 2 above are not installed by May 1, 2005, then the **Wisconsin Central Ltd.** shall stop and flag all train movements over the crossing until the cantilevered automatic flashing lights are installed.

5. That the **Wisconsin Central Ltd.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation.

6. That the **Wisconsin Central Ltd.** shall provide estimates for the crossing construction work and the signal work to the **Wisconsin Department of Transportation** within 60 days from the date upon which the Wisconsin Department of Transportation requests the estimates.

7. That the signal installation work herein ordered shall not begin until the district office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

8. That the **Outagamie County Highway Department** shall install and maintain exempt signs (Sign R15-3 in the MUTCD) on the crossbuck or signal masts on each approach to the crossing of CTH 'A' (Lynndale Avenue) with the Wisconsin Central Ltd. tracks in the Town of Grand Chute, Outagamie County by **May 2, 2005**.

9. The **Outagamie County Highway Department** shall also install and maintain yellow-background advance warning exempt signs (Sign W10-1a in the MUTCD) on the advance warning signs by **May 2, 2005**.

10. That **Outagamie County** shall use its zoning powers to prevent the construction of additional structures that would obstruct vision within the required sight triangles. The triangles are formed by connecting the following points: a) the intersection of the centerline of the roadway and the near rail of the tracks; b) a point 260' down the tracks and; c) a point 394' along the roadway from the near rail of the tracks.

11. That the **Wisconsin Central Ltd.** shall bear no part of the cost of the crossing signals, except for any cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly.

12. That the **Wisconsin Central Ltd.** shall bear 64% of the cost of the crossing construction. The Wisconsin Central Ltd. shall also bear any cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly.

13. That jurisdiction is retained.

Dated at Madison, Wisconsin, _____.

By the Office of the Commissioner of Railroads.

Rodney W. Kreunen
Commissioner of Railroads

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